Autolite

P.O Box 880 Fostoria, Ohio 44830 Telephone (419) 435-6655

May 18, 1984

Ohio EPA
2244 S. Hamilton Road
Columbus, Ohio 43227

Attention: Mr. David Rankin

Centlemen:

Enclosed is the baseline report which demonstrated the compliance status of the Bendix Autolite Corporation, Fostoria, Ohio with respect to the categorical pretreatment standards established for the Electroplating Point Source Category, 40 CFR Part 413, and for the Metal Finishing Point Source Category 40 CFR Part 433. This report has been prepared in accordance with Section 12 of 40 CFR Part 403, General Pretreatment Standards for Existing and New Sources.

If you have any questions concerning this report, please do not hesitate to contact me at (419) 435-6655.

Sincerely,

John L. Holden
Manager-Safety & Security

JLH:df

Enclosure

cc: U. S. EPA
Region V
230 South Dearborn Street
Chicago, IL 60604

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

ELECTROPLATING AND METAL FINISHING GUIDELINES
BASELINE MONITORING REPORT

SUMMARY

This Baseline Monitoring Report is being submitted for the Bendix Autolite Corporation Fostoria, Ohio Plant. The report compares the Fostoria Plant's effluent to the National Electroplating and Metal Finishing Pretreatment Standards.

As promulgated on September 7, 1979 and amended on Janaury 28, 1981 and July 15, 1983, the Environmental Protection Agency (EPA) issued regulations which limit the concentration or mass of certain pollutants which may be introduced into publicly owned treatment works by existing operations in the Electroplating Point Source Category. The regulations are outlined in 40 CFR 413, Effluent Guidelines and Standards; Electroplating Point Source Category Pretreatment Standards for Existing Sources. The mandated compliance date for the metals and cyanide standards is June 30, 1984 and for the total toxic organic standard the compliance date is July 15, 1986.

On August 31, 1982, EPA proposed to create a new point source category which would include most electroplating as well as other metal finishing operations. The effluent limitations and pretreatment standards for this new category, Metal Finishing, were promulgated on July 15, 1983 and can be found in 40 CFR 433, Effluent Guidelines and Standards; Metal Finishing Point Source Category. The compliance date for Metal Finishing Pretreatment Standards for Existing Sources (PSES) is February 15, 1986 for metals and cyanides. The compliance

date for achieving the interim total toxic organic concentration of 4.57 mg/L is June 30, 1984; and the compliance date is February 15, 1986 for the final total toxic organic concentration of 2.13 mg/L.

For industrial users, reporting requirements in the form of a baseline monitoring report are outlined in the General Pretreatment Regulations for Existing and New Sources, 40 CFR 403.12. The baseline monitoring report provides information which certifies whether or not the Electroplating and Metal Finishing Pretreatment Standards are being met on a consistent basis, and if not, whether additional operation and maintenance and/or additional pretreatment are required.

The Autolite plant is considered to be an integrated facility as regulated and unregulated wastewater streams are combined prior to discharge. The wastewaters include those generated from electroplating (black oxide coating and zinc mechanical plating) and other metal finishing operations. As such, the Fostoria plant must comply with the U.S. EPA Electroplating Standards which limit the discharge of cadmium, chromium, copper, lead, nickel, zinc, total metals, cyanide and total toxic organics. In addition, the Fostoria plant must conform with the U.S. EPA Metal Finishing Pretreatment Standards, which limit the discharge of cadmium, total chromium, copper, lead, nickel, silver, zinc, total cyanide and total toxic organics.

For this Baseline Monitoring Report, three samples were collected and analyzed during February 1984. There are three outfalls from the Autolite plant to the City of Fostoria sanitary sewer system. The compliance status of each of these outfalls with respect to the Electroplating and Metal Finishing Standards is summarized in Table 1. Since violations to the standards were measured during the survey, it is recommended that additional studies be undertaken to determine whether improved operation and maintenance of the system are needed or if additional pretreatment facilities are required.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

ELECTROPLATING AND METAL FINISHING GUIDELINES
BASELINE MONITORING REPORT

I Identification Information of Industrial User

Bendix Autolite Corporation
P.O. Box 880
Fostoria, Ohio 44830

Plant Contact: J. L. Holden
(419) 435-6655

II Applicable Permits

The Fostoria, Ohio Plant holds no applicable water quality permits.

III Description of Operations

The Bendix Autolite Fostoria, Ohio Plant manufactures spark plugs and oxygen sensors for passenger automobiles, trucks and small engines. The Standard Industrial Classification (SIC) for the Fostoria Plant is 3694 (ceramic and Metal Products). The spark plugs are manufactured from raw ceramic powders and steel bar stock. The ceramic material is formed, fired, and glazed. The bar stock is machined, coated and washed. The ceramic and metal parts and other required materials are then assembled to form the final product.

The plant currently employs approximately 1,440 people on a three shift, five day per week schedule. Reduced production levels do occur on weekends as required by production demand.

Processes which generate wastewaters include black oxide coating, zinc mechanical plating, machining, cleaning, assembly, and testing operations. The wastewaters from these operations are regulated by the U.S. Environmental Protection Agency Electroplating Standards and Metal Finishing Standards.

Wastewater discharges to the City of Fostoria Sanitary Sewer System through three outfalls. All electroplating and metal finishing wastewater discharges through one outfall (Number 001). Outfall 001 also contains storm water, miscellaneous process wastewater, sanitary and non-contact cooling water. Skimmings from the central coolant system, floor scrubbing water and the constant overflow from the parts washers flow through an oil separator prior to discharge to Outfall 001. Outfall Number 002 contains sanitary wastewater, storm water, boiler blowdown water and less than ten gallons per minute of wastewater from a ceramic glazing operation. Outfall Number 003 contains sanitary wastewater, noncontact cooling water and miscellaneous process wastewater. Storm water is discharged to the surface waters. Figure 1 shows the three outfalls to the City of Fostoria Sanitary Sewer System and the major sewers tributary to each outfall.

IV Flow Measurement Data

The major processes contributing wastewater to the wastewater discharges are listed below:

- Maintenance Steam Cleaning Operation
- Parts Washers
- Black Oxide Coating System

- Zinc Mechanical Plater
- Oily Wastes from Central Coolant System
- Floor Scrubbing Water
- Painting

Flow measurements of the wastewater generated at this plant during the survey are shown in Figure 2. As can be seen, the wastewater flow discharged to the City of Fostoria Sanitary Sewer System was approximately 324,000 gallons per day during the survey. The highest volume of water was discharged through Outfall 001. The flow rate through this outfall during the survey was 230,000 gallons per day.

The wastewater flows shown on Figure 2 result from a three shift daily operation. Future production levels may require an increase or decrease in the operation schedule. As a result, the wastewater flow may increase or decrease. However, the increase or decrease may not be proportional to the change in production.

V Sampling Program

A three day sampling program was initiated on February 13, 1984 and continued to February 16, 1984. Composite samples were collected from the three discharges to the City of Fostoria Sewer System. The sampling was done at a manhole or wet well just prior to the connection to the city system. In all cases, dilution streams were contained in the wastewater being sampled. The dates and sampling time periods are listed in Table 2. Figure 1 presents the location of the sampling points in relation to other facilities at the Fostoria Plant.

TABLE 2

FOSTORIA, OHIO PLANT
COMPOSITE SAMPLING DATES AND DURATION

Sample No.	From	To
1	2/13/84 - 10:00 AM	2/14/84 - 8:00 AM
2	2/14/84 - 8:00 AM	2/15/84 - 8:00 AM
3	2/15/84 - 8:00 AM	2/16/84 - 8:00 AM

The sampling that was done reflects and is representative of normal work cycles and expected pollutant discharges to the City of Fostoria Sanitary Sewer System.

VI Analytical Results

The results of analyses of the composite samples are presented in Table 3. The test procedures utilized in the analyses of the wastewater are presented in Attachment I. The total metals value listed in Table 3 are a sum of the chromium, copper, nickel and zinc concentrations as defined by the Electroplating regulations. Daily composite samples from each outfall were analyzed for all regulated parameters except the Acid, Base-Neutral and Pesticide and PCB Fractions of the total toxic organics. Three day composite samples of each outfall were analyzed for these parameters, since it was not expected to find these materials in any of the outfalls in significant concentrations. The analyses confirmed this expectation.

VII Pretreatment Standards

A. Electroplating Guidelines

The electroplating effluent limitations as required by U.S. EPA are shown in Attachment II. Since "dilution streams" were included at the sampling locations, the combined wastewater formula, also shown in Attachment II, is applicable. Tables 4, 5, and 6 compare the Electroplating pretreatment limitations and the average and maximum concentration values obtained during the sampling period for Outfalls 001, 002, and 003, respectively.

As can be seen from Table 4, Outfall 001 is in compliance with the Electroplating Categorical Pretreatment Limitations for cyanide, cadmium, chromium, copper, lead, nickel, and total metals. However, the average and maximum limits for zinc and total toxic organics were exceeded during the survey. Table 5 shows that Outfall 002 is in compliance with the Electroplating Standards for cyanide, cadmium, chromium, nickel, and total toxic organics; and that the average and maximum standards for lead, zinc and total metals and the maximum standard for copper were exceeded during the survey. Finally, Table 6 demonstrates that Outfall 003 is in compliance with the Electroplating Standards for cyanide, cadmium, chromium, copper, lead, nickel, zinc, and total metals; however, the maximum standard for total toxic organics was exceeded during the survey.

B. Metal Finishing Guidelines

The Metal Finishing Effluent Limitations are also presented in Attachment II. As with the Electroplating Guidelines, the use of the combined wastewater formula is required to determine compliance.

Tables 7, 8, and 9 present a comparison of the Pretreatment Limitations and the average and maximum concentration values obtained during the sampling period for Outfalls 001, 002, and 003, respectively.

As can be seen from Table 7, Outfall 001 is in compliance with the Metal Finishing Pretreatment Limitations for cyanide, cadmium, chromium, copper, lead, nickel, and silver. However, the average and maximum limits for zinc and total toxic organics were exceeded during the survey for Outfall 001. Table 8 shows that Outfall 002 is in compliance with the Metal Finishing Standards for cyanide, cadmium, chromium, nickel, and silver; and that the average and maximum standards for copper, lead and zinc were exceeded during the survey. Finally, Table 9 demonstrates that Outfall 003 is in compliance with the Metal Finishing Standards for cyanide, cadmium, chromium, copper, lead, nickel, and silver; however, the average standard for zinc and the maximum standard for total toxic organics were exceeded during the survey.

C. National Pretreatment Standards

Prohibited Discharges as defined in Section 40 CFR 403.5, of the National Pretreatment Standards were reviewed and compared to the discharge from the Fostoria

Plant. No pollutants or substances were found which would violate the guidelines set forth in the above mentioned section.

VIII Certification

The undersigned certifies that the Pretreatment Standards as established in the Electroplating Point Source Category and the Metal Finishing Point Source Category are not being consistently met at the Bendix Autolite Corporation Fostoria, Ohio Plant. It is recommended that additional studies be undertaken to determine whether improved operation and maintenance of the manufacturing systems or chemical substitutions are needed, or if pretreatment facilities need to be constructed.

Craig E. Yendell, P.E.
Senior Engineer
The Chester Engineers, Inc.

5/10/84
Date

IX Compliance Schedule

Complete Review of Operation and Maintenance Procedure by Autolite	August 15, 1984
Obtain Engineering Services	September 15, 1984
Completion of Additional Studies and Preliminary Engineering	December 15, 1984
Completion of Design Engineering and Specifications	March 15, 1985
Execute Contract/Commence Construction	April 15, 1985
Complete Construction	January 15, 1986
Attain Final Compliance	February 15, 1986

X Certification Review and Compliance Schedule

The undersigned has reviewed the Certification contained in Section VIII and submits the Compliance Schedule presented in Section IX as cost effective and feasible on behalf of Bendix Corporation.

Charles F. Stecker
President

Date

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

Table 1

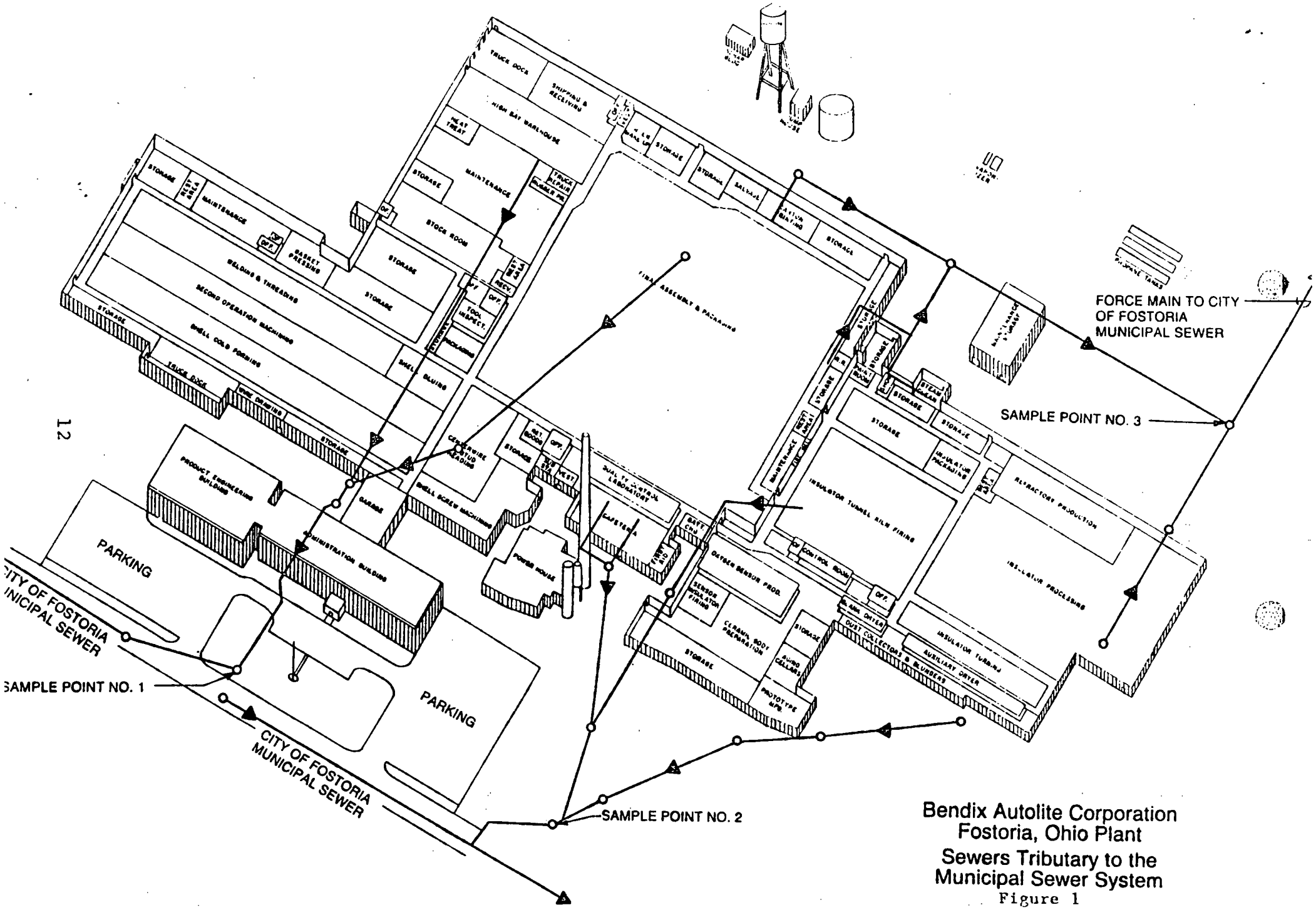
COMPLIANCE STATUS SUMMARY

Parameter	Outfall 001		Outfall 002		Outfall 003	
	Electro-plating	Metal Finishing	Electro-plating	Metal Finishing	Electro-plating	Metal Finishing
Total Cyanide	C[1]	C	C	C	C	C
Cadmium	C	C	C	C	C	C
Total Chromium	C	C	C	C	C	C
Copper	C	C	V[2]	V	C	C
Lead	C	C	V	V	C	C
Nickel	C	C	C	C	C	C
Silver	--[3]	C	--	C	--	C
Zinc	V	V	V	V	C	V
Total Toxic Organics	V	V	C	C	V	V
Total Metals (Cr, Cu, Ni, Zn)	C	--	V	--	C	--

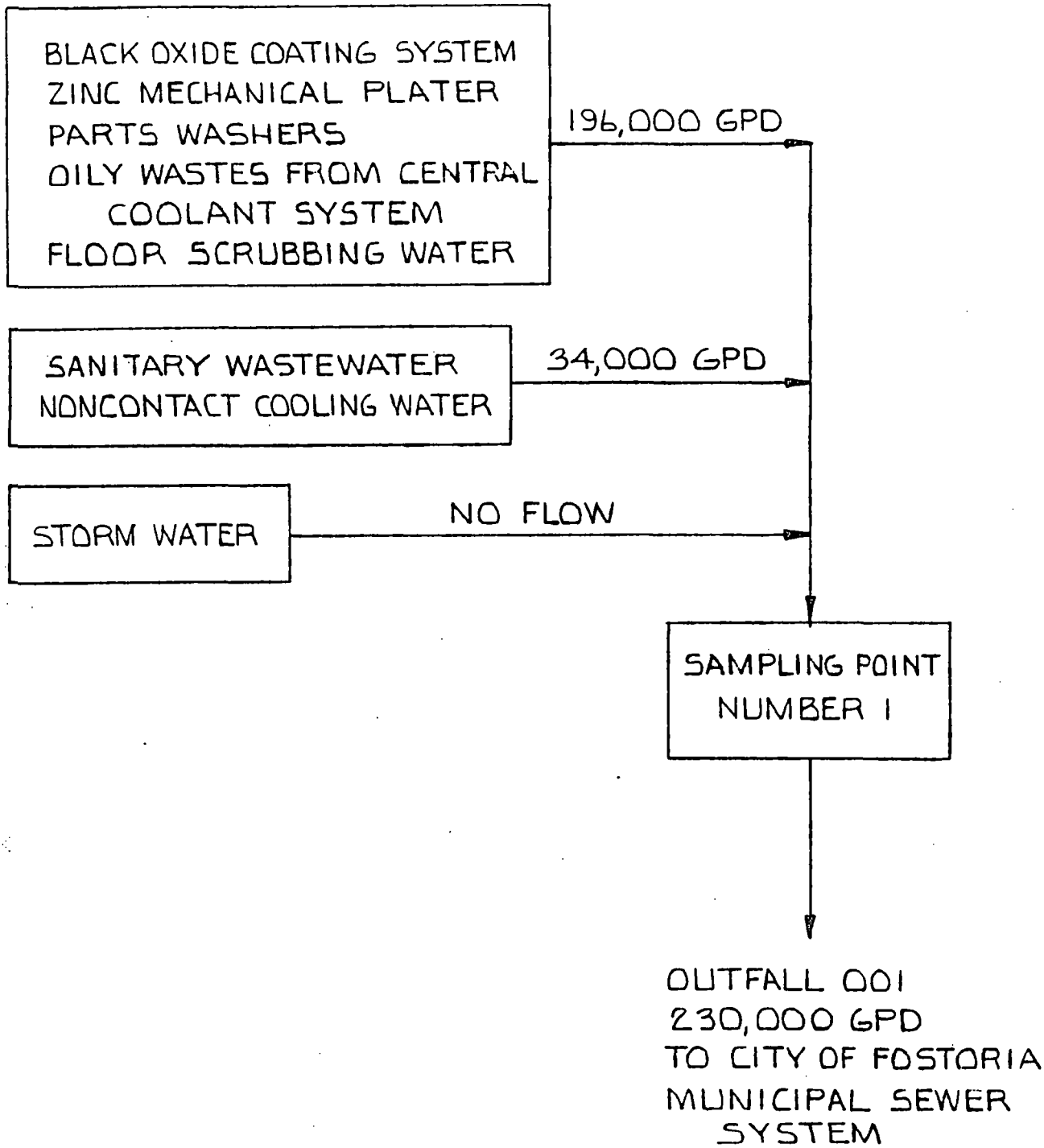
[1]Compliance

[2]Violation

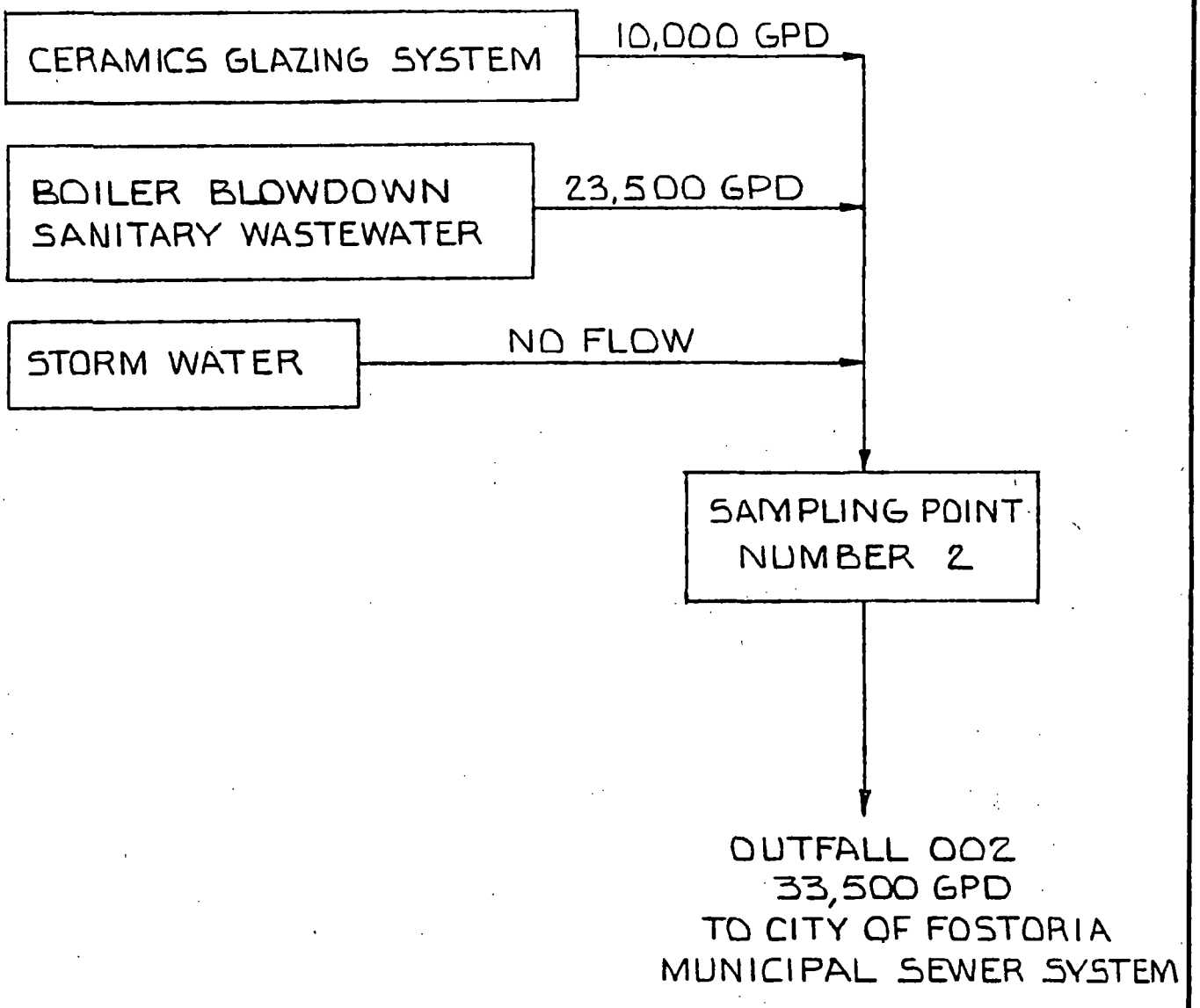
[3]No Standard



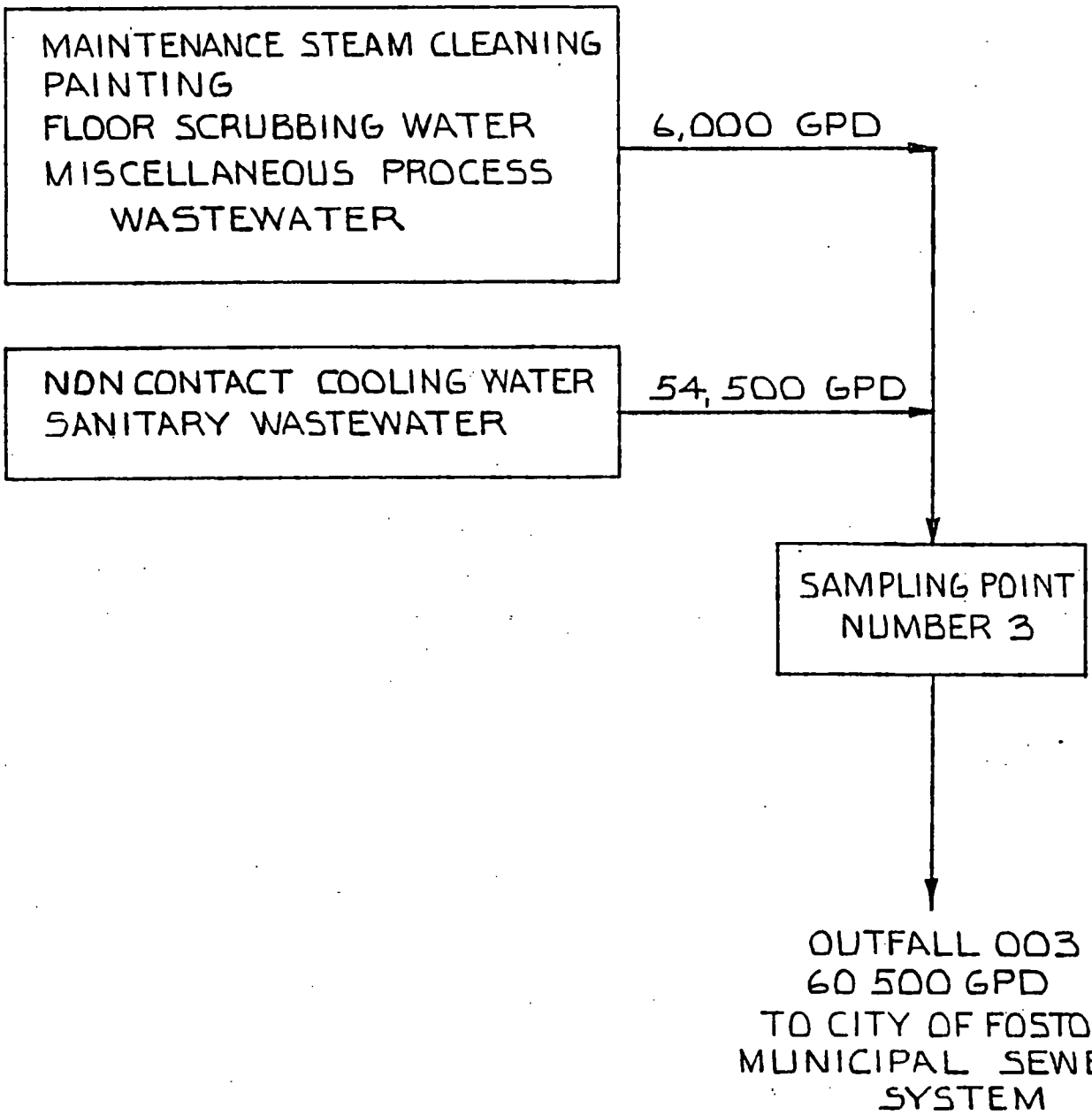
Bendix Autolite Corporation
Fostoria, Ohio Plant
Sewers Tributary to the
Municipal Sewer System
Figure 1



The Chester Engineers			SHEET NO. 1 OF 3	BENDIX AUTOLITE CORPORATION FOSTORIA, OHIO OUTFALL 001 FLOW DATA FEBRUARY 1984 SURVEY
DWN.BY: JDT	SCALE: NONE	DATE 4-84	DWG. NO. FIGURE 2	
CHK'D.BY:	APPR.BY: CEY			



The Chester Engineers			SHEET NO. 2 OF 3	BENDIX AUTOLITE CORPORATION FOSTORIA, OHIO OUTFALL 002 FLOW DATA FEBRUARY 1984 SURVEY
DWN.BY: JDT	SCALE: NONE	DATE 4-84	DWG. NO. FIGURE 2	
CHK'D.BY:	APPR.BY: CEY			



TheChesterEngineers			SHEET NO. 3 OF 3	BENDIX AUTOLITE CORPORATION FOSTORIA, OHIO OUTFALL 003 FLOW DATA FEBRUARY 1984 SURVEY
DWN.BY: JDT	SCALE: NONE	DATE 4-84	DWG. NO. FIGURE 2	
CHK'D.BY:	APPR.BY: CEY			

ChesterLaboratories

A Division Of
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845 Fourth Avenue
Coraopolis
Pennsylvania 15108
Phone. (412) 262-1035

Laboratory Analysis Report For

Bendix Autolite Corporation
Fostoria, Ohio

Analyses

Samples Received: 2/17/84
Report Date: 3/19/84

Table 3

Source	Outfall 001 Composite	Outfall 001 Composite	Outfall 001 Composite	Average of Three Composites
Log No. 84-	0820	0821	0822	
Date Collected	2/13-2/14/84	2/14-2/15/84	2-15-2/16/84	
pH	10.2	10.2	10.5	--
Total Cyanide, mg/L CN	0.062	0.045	0.031	0.046
Cadmium, mg/L Cd	<0.005	0.005	0.005	<0.005
Total Chromium, mg/L Cr	<0.005	0.005	0.005	<0.005
Copper, mg/L Cu	0.10	0.05	0.05	0.07
Lead, mg/L Pb	0.02	<0.005	<0.005	<0.01
Nickel, mg/L Ni	0.04	0.02	0.03	0.03
Silver, mg/L Ag	<0.005	<0.005	<0.005	<0.005
Zinc, mg/L Zn	6.0	1.9	4.2	4.0
Total Toxic Organic, mg/L	2.19	2.78	2.42	2.46
Total Metals, mg/L (Cr, Cu, Ni, Zn)	6.14	1.98	4.28	4.13

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- Unless otherwise noted, analyses are in accordance with methods and procedures outlined and approved by the Environmental Protection Agency and conform to quality assurance protocol.
- "Less-than" (<) values are indicative of the detection limit.

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Laboratory Analysis Report For

Bendix Autolite Corporation
Fostoria, Ohio

Analyses

Table 3
(Continued)

Samples Received: 2/17/84
Report Date: 3/19/84

Source	Outfall 002 Composite	Outfall 002 Composite	Outfall 002 Composite	Average of Three Composites
Log No. 84-	0823	0824	0825	
Date Collected	2/13-2/14/84	2/14-2/15/84	2/15-2/16/84	
pH	8.6	7.6	8.4	--
Total Cyanide, mg/L Cn	<0.005	0.085	<0.005	<0.032
Cadmium, mg/L Cd	0.06	0.005	0.14	0.07
Total Chromium, mg/L Cr	0.05	0.01	0.24	0.1
Copper, mg/L Cu	0.58	0.06	1.6	0.75
Lead, mg/L Pb	0.78	0.02	2.0	0.93
Nickel, mg/L Ni	0.10	0.02	0.58	0.23
Silver, mg/L Ag	<0.005	<0.005	0.02	<0.01
Zinc, mg/L Zn	192	8.8	438	21
Total Toxic Organic, mg/L	0.31	0.31	0.22	0.28
Total Metals, mg/L (Cr, Cu, Ni, Zn)	193	8.9	440	214

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Laboratory Analysis Report For

Bendix Autolite Corporation
Fostoria, Ohio

Analyses

Samples Received: 2/17/84
Report Date: 3/19/84

Table 3
(Continued)

Source	Outfall 003 Composite	Outfall 003 Composite	Outfall 003 Composite	Average of Three Composites
Log No. 84-	0826	0827	0828	
Date Collected	2/13-2/14/84	2/14-2/15/84	2/14-2/15/84	
pH	7.2	7.1	7.1	--
Total Cyanide, mg/L CN	<0.005	<0.005	<0.005	<0.005
Cadmium, mg/L Cd	0.005	0.005	0.005	0.005
Total Chromium, mg/L Cr	0.005	0.005	0.008	0.006
Copper, mg/L Cu	0.28	0.20	0.28	0.25
Lead, mg/L Pb	0.02	0.02	0.02	0.02
Nickel, mg/L Ni	0.05	0.04	0.09	0.06
Silver, mg/L Ag	<0.005	<0.005	<0.005	<0.005
Zinc, mg/L Zn	0.23	0.25	0.23	0.24
Total Toxic Organic, mg/L	2.20	0.58	0.71	1.16
Total Metals, mg/L (Cr, Cu, Ni, Zn)	0.56	0.50	0.61	0.56

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Table 3
(Continued)

Laboratory Analysis Report
For

Bendix Autolite Corporation
Fostoria, Ohio

Samples Received: 2/17/84
Report Date: 3/19/84

Volatile Compounds

Source	Outfall 001 Composite	Outfall 001 Composite	Outfall 001 Composite	Outfal 002 Composit
Log No. 84-	0820	0821	0822	082
Date Collected	2/13-2/14/84	2/14-2/15/84	2/15-2/16/84	2/13-2/14/8
Acrolein, µg/L	<10	<10	<10	<1
Acrylonitrile, µg/L	56	<10	<10	<1
Benzene, µg/L	13	12	<10	<1
Bromoform, µg/L	<10	<10	<10	<1
Carbon Tetrachloride, µg/L	16	13	10	<1
Chlorobenzene, µg/L	<10	<10	<10	<1
Chlorodibromomethane, µg/L	<10	<10	<10	<1
Chloroethane, µg/L	<10	<10	<10	<1
2-Chloroethylvinyl Ether, µg/L	<10	<10	<10	3
Chloroform, µg/L	<10	68	<10	6
Dichlorobromomethane, µg/L	<10	<10	<10	<1
1,1-Dichloroethane, µg/L	<10	<10	<10	<1
1,2-Dichloroethane, µg/L	56	68	71	<1
1,1-Dichloroethylene, µg/L	<10	<10	<10	<1
1,2-Dichloropropane, µg/L	<10	<10	<10	<1
cis-1,3-Dichloropropene, µg/L	<10	<10	<10	<1
trans-1,3-Dichloropropene, µg/L	<10	<10	<10	<1
Ethylbenzene, µg/L	<10	15	<10	1
Methyl Bromide, µg/L	<10	<10	<10	<1
Methyl Chloride, µg/L	<10	<10	<10	<1
Methylene Chloride, µg/L	32	<10	43	<1
1,1,2,2-Tetrachloroethane, µg/L	<10	<10	<10	1
Tetrachloroethylene, µg/L	<10	<10	<10	1
Toluene, µg/L	<10	<10	<10	1
1,2-Trans-Dichloroethylene, µg/L	54	70	70	<1
1,1,1-Trichloroethane, µg/L	124	119	82	1
1,1,2-Trichloroethane, µg/L	<10	<10	<10	<1
Trichloroethylene, µg/L	1,800	2,380	2,100	10
Vinyl Chloride, µg/L	<10	<10	<10	<1

3425-90

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Table 3
(Continued)

Laboratory Analysis Report For

Bendix Autolite Corporation
Fostoria, Ohio

Volatile Compounds

Samples Received: 2/17/84
Report Date: 3/19/84

Source	Outfall 002 Composite	Outfall 002 Composite	Outfall 003 Composite	Outfall 003 Composite
Log No. 84-	0824	0825	0826	0827
Date Collected	2/14-2/15/84	2/15-2/16/84	2/13-2/14/84	2/14-2/15/84
Acrolein, µg/L	<10	<10	<10	<10
Acrylonitrile, µg/L	<10	<10	<10	<10
Benzene, µg/L	<10	<10	<10	<10
Bromoform, µg/L	<10	<10	<10	<10
Carbon Tetrachloride, µg/L	<10	<10	14	<10
Chlorobenzene, µg/L	<10	<10	<10	<10
Chlorodibromomethane, µg/L	<10	<10	<10	<10
Chloroethane, µg/L	<10	<10	<10	<10
2-Chloroethylvinyl Ether, µg/L	19	<10	44	<10
Chloroform, µg/L	56	<10	56	54
Dichlorobromomethane, µg/L	<10	<10	<10	<10
1,1-Dichloroethane, µg/L	<10	<10	<10	<10
1,2-Dichloroethane, µg/L	<10	<10	313	47
1,1-Dichloroethylene, µg/L	<10	<10	<10	<10
1,2-Dichloropropane, µg/L	<10	<10	<10	<10
cis-1,3-Dichloropropene, µg/L	<10	<10	<10	<10
trans-1,3-Dichloropropene, µg/L	<10	<10	<10	<10
Ethylbenzene, µg/L	15	<10	<10	<10
Methyl Bromide, µg/L	<10	<10	<10	<10
Methyl Chloride, µg/L	<10	<10	<10	<10
Methylene Chloride, µg/L	108	<10	118	127
1,1,2,2-Tetrachloroethane, µg/L	<10	<10	<10	<10
Tetrachloroethylene, µg/L	<10	<10	<10	<10
Toluene, µg/L	10	<10	<10	<10
1,2-Trans-Dichloroethylene, µg/L	<10	16	300	51
1,1,1-Trichloroethane, µg/L	13	18	119	53
1,1,2-Trichloroethane, µg/L	<10	<10	<10	<10
Trichloroethylene, µg/L	46	142	1,215	230
Vinyl Chloride, µg/L	<10	<10	<10	<10

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Table 3
(Continued)

Laboratory Analysis Report
For

Bendix Autolite Corporation
Fostoria, Ohio

Volatile Compounds

Samples Received: 2/17/84
Report Date: 3/24/84

Source	Outfall 003 Composite
Log No. 84-	0828
Date Collected	2/15-2/16/84
Acrolein, µg/L	<10
Acrylonitrile, µg/L	<10
Benzene, µg/L	<10
Bromoform, µg/L	<10
Carbon Tetrachloride, µg/L	<10
Chlorobenzene, µg/L	<10
Chlorodibromomethane, µg/L	<10
Chloroethane, µg/L	<10
2-Chloroethylvinyl Ether, µg/L	<10
Chloroform, µg/L	<10
Dichlorobromomethane, µg/L	<10
1,1-Dichloroethane, µg/L	<10
1,2-Dichloroethane, µg/L	55
1,1-Dichloroethylene, µg/L	<10
1,2-Dichloropropane, µg/L	<10
cis-1,3-Dichloropropene, µg/L	<10
trans-1,3-Dichloropropene, µg/L	<10
Ethylbenzene, µg/L	<10
Methyl Bromide, µg/L	<10
Methyl Chloride, µg/L	<10
Methylene Chloride, µg/L	102
1,1,2,2-Tetrachloroethane, µg/L	<10
Tetrachloroethylene, µg/L	<10
Toluene, µg/L	<10
1,2-Trans-Dichloroethylene, µg/L	48
1,1,1-Trichloroethane, µg/L	293
1,1,2-Trichloroethane, µg/L	<10
Trichloroethylene, µg/L	198
Vinyl Chloride, µg/L	<10

- Unless otherwise noted, analyses are in accordance with methods and procedures outlined and approved by the Environmental Protection Agency and conform to quality assurance protocol.
- "Less-than" (<) values are indicative of the detection limit.

ChesterLaboratories
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845 Fourth Avenue
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Table 3
(Continued)

Laboratory Analysis Report
For

Bendix Autolite Corporation
Fostoria, Ohio

Samples Received: 2/17/84
Report Date: 3/19/84

Acid Extractables

Source	Outfall 001 3 Day Composite	Outfall 002 3 Day Composite	Outfall 003 3 Day Composite
Log No. 84-	0873	0874	0875
Date Sampled	2/13 to 2/16/84	2/13 to 2/16/84	2/13 to 2/16/84
2-Chlorophenol, µg/L	<10	<10	<10
2,4-Dichlorophenol, µg/L	<10	<10	<10
2,4-Dimethylphenol, µg/L	<10	<10	<10
4,6-Dinitro-O-Cresol, µg/L	<10	<10	<10
2,4-Dinitrophenol, µg/L	<10	<10	<10
2-Nitrophenol, µg/L	<10	<10	<10
4-Nitrophenol, µg/L	<10	<10	<10
P-Chloro-M-Cresol, µg/L	<10	<10	<10
Pentachlorophenol, µg/L	<10	41	<10
Phenol, µg/L	<10	<10	<10
2,4,6-Trichlorophenol, µg/L	<10	<10	<10

- Unless otherwise noted, analyses are in accordance with methods and procedures outlined and approved by the Environmental Protection Agency and conform to quality assurance protocol.
- "Less-than" (<) values are indicative of the detection limit.

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Table 3
(Continued)

Laboratory Analysis Report For

Bendix Autolite Corporation
Fostoria, Ohio

Samples Received: 2/17/84
Report Date: 3/19/84

Pesticides and PCB

Source	Outfall 001 3 Day Composite	Outfall 002 3 Day Composite	Outfall 003 3 Day Composite
Log No. 84-	0873	0874	0875
Date Sampled	2/13 to 2/16/84	2/13 to 2/16/84	2/13 to 2/16/84
Aldrin, µg/L	<10	<10	<10
a-BHC, µg/L	<10	<10	<10
b-BHC, µg/L	<10	<10	<10
d-BHC, µg/L	<10	<10	<10
g-BHC, µg/L	<10	<10	<10
Chlordane, µg/L	<10	<10	<10
4,4'-DDT, µg/L	<10	<10	<10
4,4'-DDE, µg/L	<10	<10	<10
4,4'-DDD, µg/L	<10	<10	<10
Dieldrin, µg/L	<10	<10	<10
a-Endosulfan, µg/L	<10	<10	<10
b-Endosulfan, µg/L	<10	<10	<10
Endosulfan Sulfate, µg/L	<10	<10	<10
Endrin, µg/L	<10	<10	<10
Endrin Aldehyde, µg/L	<10	<10	<10
Heptachlor, µg/L	<10	<10	<10
Heptachlor Epoxide, µg/L	<10	<10	<10
PCB-1242, µg/L	<10	<10	<10
PCB-1254, µg/L	<10	<10	<10
PCB-1221, µg/L	<10	<10	<10
PCB-1232, µg/L	<10	<10	<10
PCB-1248, µg/L	<10	<10	<10
PCB-1260, µg/L	<10	<10	<10
PCB-1016, µg/L	<10	<10	<10
Toxaphene, µg/L	<10	<10	<10

- Unless otherwise noted, analyses are in accordance with methods and procedures outlined and approved by the Environmental Protection Agency and conform to quality assurance protocol.
- "Less-than" (<) values are indicative of the detection limit.

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Table 3
(Continued)

Laboratory Analysis Report
For
Bendix Autolite Corporation
Fostoria, Ohio

Base-Neutral Extractables

Samples Received: 2/17/84
Report Date: 3/19/84

Source	Outfall 001 3 Day Composite	Outfall 002 3 Day Composite	Outfall 003 3 Day Composite
Log No. 84-	0873	0874	0875
Date Collected	2/13 to 2/16/84	2/13 to 2/16/84	2/13 to 2/16/84
Acenaphthene, µg/L	<10	<10	<10
Acenaphthylene, µg/L	<10	<10	<10
Anthracene, µg/L	16	<10	<10
Benzidine, µg/L	<10	<10	<10
Benzo(a)Anthracene, µg/L	<10	<10	<10
Benzo(a)Pyrene, µg/L	<10	<10	<10
3,4-Benzo-Fluoranthene, µg/L	<10	<10	<10
Benzo(g,h,i)Perylene, µg/L	<10	<10	<10
Benzo(k)Fluoranthene, µg/L	<10	<10	<10
Bis(2-Chloroethoxy)Methane, µg/L	<10	<10	<10
Bis(2-Chloroethyl)Ether, µg/L	<10	<10	<10
Bis(2-Chloroisopropyl)Ether, µg/L	<10	<10	<10
Bis(2-Ethylhexyl)Phthalate, µg/L	10	<10	17
4-Bromophenyl Phenyl Ether, µg/L	<10	<10	<10
Butyl Benzyl Phthalate, µg/L	<10	<10	<10
2-Chloronaphthalene, µg/L	<10	<10	<10
4-Chlorophenyl Phenyl Ether, µg/L	<10	<10	<10
Chrysene, µg/L	<10	<10	<10
Dibenzo(a,h)Anthracene, µg/L	<10	<10	<10
1,2-Dichlorobenzene, µg/L	<10	<10	<10
1,3-Dichlorobenzene, µg/L	<10	<10	<10
1,4-Dichlorobenzene, µg/L	<10	<10	<10
3,3'-Dichlorobenzidine, µg/L	<10	<10	<10
Diethyl Phthalate, µg/L	<10	<10	<10
Dimethyl Phthalate, µg/L	<10	<10	<10
Di-N-Butyl Phthalate, µg/L	<10	<10	<10
2,4-Dinitrotoluene, µg/L	<10	<10	<10
2,6-Dinitrotoluene, µg/L	<10	<10	<10
Di-N-Octyl Phthalate, µg/L	<10	<10	<10
1,2-Diphenylhydrazine, µg/L	<10	<10	<10

- Unless otherwise noted, analyses are in accordance with methods and procedures outlined and approved by the Environmental Protection Agency and conform to quality assurance protocol.
- *"Less-than" (<) values are indicative of the detection limit.*

Table 3

(Continued)

LABORATORY ANALYSIS REPORT

FOR

Bendix Autolite Corporation
Fostoria, Ohio

Base-Neutral Extractables
(Continued)

Source	Outfall 001 3 Day Composite	Outfall 002 3 Day Composite	Outfall 003 3 Day Composite
Log No. 84-	0873	0874	0875
Date Collected	2/13 to 2/16/84	2/13 to 2/16/84	2/13 to 2/16/84
Fluoranthene, µg/L	<10	<10	<10
Fluorene, µg/L	<10	<10	<10
Hexachlorobenzene, µg/L	<10	<10	<10
Hexachlorobutadiene, µg/L	<10	<10	<10
Hexacyclochloropentadiene, µg/L	<10	<10	<10
Hexachloroethane, µg/L	<10	<10	<10
Indeno(1,2,3-cd)Pyrene, µg/L	<10	<10	<10
Isophorone, µg/L	<10	<10	<10
Naphthalene, µg/L	<10	<10	<10
Nitrobenzene, µg/L	<10	<10	<10
N-Nitrosodimethylamine, µg/L	<10	<10	<10
N-Nitrosodi-N-Propylamine, µg/L	<10	<10	<10
N-Nitrosodiphenylamine, µg/L	<10	<10	<10
Phenanthrene, µg/L	14	<10	<10
Pyrene, µg/L	<10	<10	<10
1,2,4-Trichlorobenzene, µg/L	<10	<10	<10

3425-90

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TABLE 4

COMPARISON OF ELECTROPLATING
GUIDELINE LIMITATIONS TO
PLANT EFFLUENT QUALITY
OUTFALL NUMBER 001

	Electroplating Guideline Limitations[1,2]		Results of Outfall Composites	
	Daily Maximum	4-Day Average	Daily Maximum	3-Day Average
Total Cyanide, mg/L CN	1.62	0.85	0.062	0.046
Cadmium, mg/L Cd	1.02	0.60	0.005	<0.005
Chromium, mg/L Cr	5.96	4.69	0.005	<0.005
Copper, mg/L Cu	3.83	2.30	0.10	0.07
Lead, mg/L Pb	0.51	0.26	0.02	<0.01
Nickel, mg/L Ni	3.49	2.21	0.04	0.03
Zinc, mg/L Zn	3.58	2.21	6.0	4.0
Total Metals, mg/L (Cr, Cu, Ni, Zn)	8.9	5.8	6.14	4.13
TTO, mg/L[3]	1.81	0	2.78	2.46

[1]Calculated Pretreatment Standards are based upon a factor of 0.852 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 230,000 gpd of which 196,000 gpd was process wastewater.

[2]Compliance with the cyanide and metal limitations is required by June 30, 1984.

[3]TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3. Compliance with this limitation is required by July 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

TABLE 5

COMPARISON OF ELECTROPLATING
GUIDELINE LIMITATIONS TO
PLANT EFFLUENT QUALITY
OUTFALL NUMBER 002

	Electroplating Guideline Limitations[1,2]		Results of Outfall Composites	
	Daily Maximum	4-Day Average	Daily Maximum	3-Day Average
Total Cyanide, mg/L CN	0.57	0.30	0.085	<0.032
Cadmium, mg/L Cd	0.36	0.21	0.14	0.07
Chromium, mg/L Cr	2.09	1.19	0.24	0.1
Copper, mg/L Cu	1.34	0.80	1.6	0.75
Lead, mg/L Pb	0.18	0.09	2.0	0.93
Nickel, mg/L Ni	1.22	0.77	0.58	0.23
Zinc, mg/L Zn	1.25	0.77	438	213
Total Metals, mg/L (Cr, Cu, Ni, Zn)	3.13	2.03	440	214
TTO, mg/L[3]	0.63	--	0.31	0.28

[1]Calculated Pretreatment Standards are based upon a factor of 0.298 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 33,500 gpd of which 10,000 gpd was process wastewater.

[2]Compliance with the cyanide and metal limitations is required by June 30, 1984.

[3]TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3. Compliance with this limitation is required by July 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

TABLE 6

COMPARISON OF ELECTROPLATING
GUIDELINE LIMITATIONS TO
PLANT EFFLUENT QUALITY
OUTFALL NUMBER 003

	Electroplating Guideline Limitations[1,2]		Results of Outfall Composites	
	Daily Maximum	4-Day Average	Daily Maximum	3-Day Average
Total Cyanide, mg/L CN	0.19	0.10	<0.005	<0.005
Cadmium, mg/L Cd	0.12	0.07	0.005	0.005
Chromium, mg/L Cr	0.70	0.40	0.008	0.006
Copper, mg/L Cu	0.45	0.27	0.28	0.25
Lead, mg/L Pb	0.06	0.03	0.02	0.02
Nickel, mg/L Ni	0.41	0.26	0.09	0.06
Zinc, mg/L Zn	0.42	0.26	0.25	0.24
Total Metals, mg/L (Cr, Cu, Ni, Zn)	1.05	0.68	0.61	0.56
TTO, mg/L	0.21	--	2.20	1.16

[1]Calculated Pretreatment Standards are based upon a factor of 0.099 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 60,500 gpd of which 6,000 gpd was process wastewater.

[2]Compliance with the cyanide and metal limitations is required by June 30, 1984.

[3]TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3. Compliance with this limitation is required by July 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

TABLE 7

COMPARISON OF METAL FINISHING
PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
TO PLANT EFFLUENT QUALITY
OUTFALL NUMBER 001

	Metal Finishing Guideline Limitations[1,2]		Results of Outfall Composites	
	1-Day Maximum	Monthly Average	Daily Maximum	3-Day Average
Cadmium, mg/L Cd	0.59	0.22	0.005	<0.005
Total Chromium, mg/L Cr	2.36	1.46	0.005	<0.005
Copper, mg/L Cu	2.88	1.76	0.10	0.07
Lead, mg/L Pb	0.59	0.37	0.02	<0.01
Nickel, mg/L Ni	3.39	2.03	0.04	0.03
Silver, mg/L Ag	0.37	0.20	<0.005	<0.005
Zinc, mg/L Zn	2.22	1.26	6.0	4.0
Total Cyanide, mg/L CN	1.02	0.42	0.062	0.046
TTO, mg/L[3]	3.89[4]	--	2.78	2.46
	1.81[5]	--	2.78	2.46

[1] Calculated Pretreatment Standards are based upon a factor of 0.852 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 230,000 gpd of which 160,000 gpd was process wastewater.

[2] Compliance with the cyanide and metal limitations is required by February 15, 1986.

[3] TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3.

[4] Compliance with this limitation is required by June 30, 1984.

[5] Compliance with this limitation is required by February 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

TABLE 8

COMPARISON OF METAL FINISHING
PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
TO PLANT EFFLUENT QUALITY
OUTFALL NUMBER 002

	Metal Finishing Guideline Limitations[1,2]		Results of Outfall Composites	
	1-Day Maximum	Monthly Average	Daily Maximum	3-Day Average
Cadmium, mg/L Cd	0.20	0.08	0.14	0.07
Total Chromium, mg/L Cr	0.82	0.51	0.24	0.1
Copper, mg/L Cu	1.01	0.62	1.6	0.75
Lead, mg/L Pb	0.20	0.13	2.0	0.93
Nickel, mg/L Ni	1.19	0.71	0.58	0.23
Silver, mg/L Ag	0.13	0.07	0.02	<0.01
Zinc, mg/L Zn	0.78	0.44	438	213
Total Cyanide, mg/L CN	0.35	0.19	0.085	<0.032
TTO, mg/L[3]	1.36[4]	--	0.31	0.28
	0.63[5]	--	0.31	0.28

[1]Calculated Pretreatment Standards are based upon a factor of 0.298 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 33,500 gpd of which 10,000 gpd was process wastewater.

[2]Compliance with the cyanide and metal limitations is required by February 15, 1986.

[3]TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3.

[4]Compliance with this limitation is required by June 30, 1984.

[5]Compliance with this limitation is required by February 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

TABLE 9

COMPARISON OF METAL FINISHING
PRETREATMENT STANDARDS FOR EXISTING SOURCES (PSES)
TO PLANT EFFLUENT QUALITY
OUTFALL NUMBER 003

	Metal Finishing Guideline Limitations[1,2]		Results of Outfall Composites	
	1-Day Maximum	Monthly Average	Daily Maximum	3-Day Average
Cadmium, mg/L Cd	0.07	0.03	0.005	0.005
Total Chromium, mg/L Cr	0.28	0.17	0.008	0.006
Copper, mg/L Cu	0.34	0.21	0.28	0.25
Lead, mg/L Pb	0.07	0.04	0.02	0.02
Nickel, mg/L Ni	0.40	0.24	0.09	0.06
Silver, mg/L Ag	0.04	0.02	<0.005	<0.005
Zinc, mg/L Zn	0.26	0.15	0.25	0.24
Total Cyanide, mg/L CN	0.12	0.06	<0.005	<0.005
TTO, mg/L[3]	0.46[4]	--	2.20	1.16
	0.21[5]	--	2.20	1.16

[1]Calculated Pretreatment Standards are based upn a factor of 0.099 of the published Pretreatment Standards. This was obtained by the use of the combined wastewater formula (Attachment II) and from flow sampling data which indicated a total flow at the sampling location of 60,500 gpd of which 6,000 gpd was process wastewater.

[2]Compliance with the cyanide and metal limitations is required by February 15, 1986.

[3]TTO is defined as the summation of all values greater than 10 µg/L for each of the organic compounds listed in Table 3.

[4]Compliance with this limitation is required by June 30, 1984.

[5]Compliance with this limitation is required by February 15, 1986.

BENDIX AUTOLITE CORPORATION
FOSTORIA, OHIO

BASELINE MONITORING REPORT

ATTACHMENT I

TEST PROCEDURES FOR THE ANALYSIS OF POLLUTANTS

Parameter	Test Procedure
pH	Method 150.1[1]
Cyanide, Total	Method 335.2[1]
Cyanide, Amenable	Method 335.1[1]
Copper	Method 220.1[1]
Nickel	Method 249.1[1]
Chromium	Method 218.1[1]
Zinc	Method 289.1[1]
Lead	Method 239.1[1]
Cadmium	Method 213.1[1]
Silver	Method 272.1[1]
Total Toxic Organics	GC/MS Methods 624, 625[2]

[1] "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979.

[2] Federal Register, Volume 44, No. 233, Monday, December 3, 1979.

ATTACHMENT II

DETERMINATION OF ALTERNATIVE CATEGORICAL CONCENTRATION LIMITS FOR COMBINED WASTEWATERS

Pollutant of Pollutant Property	Electroplating Pretreatment Standard		Metal Finishing Pretreatment Standard	
	1-Day Maximum* mg/L	4-Day Average* mg/L	1-Day Maximum* mg/L	Monthly Average* mg/L
CN, T	1.9	1.0	1.20	0.65
Cu	4.5	2.7	3.38	2.07
Ni	4.1	2.6	3.98	2.38
Cr	7.0	4.0	2.77	1.71
Zn	4.2	2.6	2.61	1.48
Pb	0.6	0.3	0.69	0.43
Cd	1.2	0.7	0.69	0.26
Ag	--	--	0.43	0.24
Total Metals (Cu, Ni, Cr, Zn)	10.5	6.8		
Total Toxic Organics	2.13	--	2.13	--

* Where electroplating or metal finishing process wastewaters are mixed prior to treatment with wastewaters other than those generated by the regulated process, alternative categorical limits may be derived using the following formula:

$$C_T = \left(\frac{\sum_{i=1}^{N} C_i F_i}{\sum_{i=1}^{N} F_i} \right) \left(\frac{F_T - F_D}{F_T} \right)$$

where:

C_T = the alternative concentration limit for the combined wastestream.

C_i = the categorical Pretreatment Standard concentration limit (listed above) for a regulated stream i.

F_i = the average daily flow (at least a 30-day average) of stream i to the extent that it is regulated for such pollutant.

F_D = the average daily flow (at least a 30-day average) from boiler blowdown streams, non-contact cooling streams, sanitary wastestreams (where such streams are not regulated by a categorical Pretreatment Standard) and from any process wastestreams which were or could have been entirely exempted from categorical Pretreatment Standards for one or more of the following reasons:

(1) the pollutants of concern are not detectable in the effluent from the Industrial User

(2) the pollutants of concern are present only in trace amount and are neither causing nor likely to cause toxic effects.

(3) the pollutants of concern are present in amounts too small to be effectively reduced by technologies known to the Administrator.

(4) the wastestream contains only pollutants which are compatible with the POTW.

F_T = the average daily flow (at least a 30-day average) through the combined treatment facility (includes F_i, F_D and unregulated streams).

N = the total number of regulated streams.